

WHAT IS CLAIMED IS:

1. A reflection mirror comprising:
a resin substrate;
an underlaying layer formed on the resin
5 substrate, the underlaying layer including at least
one TiO_2 film and at least one Al_2O_3 film, wherein a
film of the underlaying layer contacting the resin
substrate is a TiO_2 film;
a reflection layer composed of an Ag film
10 formed on the underlaying layer; and
a protective layer formed on the reflection
layer, the protective layer including at least one
 TiO_2 film and at least one Al_2O_3 film.
- 15 2. A reflection mirror according to claim 1,
wherein each of the underlaying layer and the
protective layer is composed of alternate layers of a
 TiO_2 film and an Al_2O_3 film.
- 20 3. A reflection mirror according to claim 1,
wherein a film of the underlaying layer contacting
the reflection mirror is a TiO_2 film.
- 25 4. A reflection mirror according to claim 1,
wherein a geometric total film thickness of the Al_2O_3
films included in the underlaying layer is 10 nm or
more.

5. A reflection mirror according to claim 4,
wherein a geometric total film thickness of the Al_2O_3
films included in the underlying layer is 100 nm or
less.

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6. A reflection mirror according to claim 1,
wherein a geometric film thickness of the TiO_2 film
of the underlying layer contacting the resin
substrate is 80 nm or less.

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7. A reflection mirror according to claim 1,
wherein the protective layer further includes a film
of SiO_x ($1 < x < 2$) having a geometric film thickness of
1 to 20 nm.

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8. A reflection mirror according to claim 1,
wherein the underlying layer is composed of 2 layers
of a TiO_2 film and an Al_2O_3 film; 3 layers of a TiO_2
film, an Al_2O_3 film, and a TiO_2 film; 4 layers of a
20 TiO_2 film, an Al_2O_3 film, a TiO_2 film, and an Al_2O_3
film; or 5 layers of a TiO_2 film, an Al_2O_3 film, a
 TiO_2 film, an Al_2O_3 film, and a TiO_2 film, in order
from the resin substrate side.

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9. A reflection mirror according to claim 1,
wherein the protective layer is composed of 2 layers
of an Al_2O_3 film and a TiO_2 film; 4 layers of an Al_2O_3

film, a TiO_2 film, an Al_2O_3 film, and a TiO_2 film; 3
layers of a TiO_2 film, an Al_2O_3 film, and a TiO_2 film;
5 layers of a TiO_2 film, an Al_2O_3 film, a TiO_2 film,
an Al_2O_3 film, and a TiO_2 film; or 3 layers of an Al_2O_3
5 film, a TiO_2 film, and an SiO_x ($1 < x < 2$) film, in order
from the resin substrate side.

10. An optical member comprising the reflection
mirror of claim 1.

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11. An optical equipment comprising the optical
member of claim 10.